The JOURNAL *of* GEOGRAPHY

Copyright, 1934, The Journal of Geography

VOLUME XXXIII FEBRUARY, 1934 NUMBER 2

NEW YORK STATE WATERWAYS

F. A. CARLSON
Ohio State University

The marginal and inland waterways of the state of New York are forever perpetuating their significance in the affairs of the nation and abroad. Long before the white man reached its shores, the Empire State was crossed by bartering Indians, carrying their pelts, handicrafts, paints, and flints over the Mohawk and the Hudson. The French fur traders, the Dutch East India Company, Henry Hudson and Robert Fulton's *Clermont* disclose important historical facts associated with the New York waterways. Later the commendable Erie Canal joined the Great Lakes and the Hudson River, opening one of the first great inland waterways in the Americas. The next important step was the improvement of the canal system, making it wider and deeper. Now a new era, further unfolds the development of waterways. The channel of the Hudson River has been deepened from the city of Hudson to the Port of Albany, to a minimum depth of twenty-seven feet at mean low water, a depth sufficient to float 85 to 90 per cent of all ocean going freight ships of the world, thus placing Albany among our great inland ocean ports. Progress continues as the State of New York as well as the entire nation views with interest the project of the Great Lakes-St. Lawrence ocean waterway. An agreement has been reached between the United States and Canada and the treaty now awaits ratification by the United States Congress and the Canadian Parliament.

NEW YORK STATE BARGE CANAL SYSTEM

The New York State Barge Canal System consists of four major divisions, namely, the Erie, the Oswego, the Cayuga-Seneca, and the Champlain. Each one of these canals has a minimum depth of twelve feet. It may be recalled that the original Erie Canal was approximately 4 feet deep and 42 feet wide. The width of the improved barge canal channel is at least 200 feet thru canalized rivers and

lakes, thru rock cuts in land lines a minimum bottom width of 94 feet has been provided, and 75 feet thru earth sections. The dimensions of the locks on the canals are not less than 310 feet long and 44.4 feet wide, accommodating a boat or barges of 300 feet or less in length.

The Erie Canal begins about 10 miles north of Albany, at Waterford and extends some 339 miles to Tonawanda at the junction of the Erie Canal and the Niagara River. Buffalo, the Barge Canal terminal at the Erie basin is about 13 miles from Tonawanda. The distance from New York City to Buffalo via the Hudson River and the Barge Canal is some 500 miles.

The Oswego division begins at Three River Point on the Erie Canal and extends to Oswego on Lake Ontario over the canalized Oswego River. From Oswego, vessels may pass to Lake Erie by way of the Welland Canal located in the Canadian province of Ontario. The Welland Canal and the Oswego Canal are each approximately twenty-five miles long.

The Cayuga-Seneca division leads from the Erie Canal at a point about one-half mile west of the village of Montezuma thru the Cayuga branch of the Canal and Lake Cayuga to Ithaca, a distance of about 41.9 miles or thru the Seneca Canal branch via Lake Seneca to Watkins, a distance of 51.9 miles.

The Champlain Canal joins the Erie Canal at Waterford and extends to Whitehall on Lake Champlain. From Waterford to Fort Edward it consists of the canalized Hudson River and from Fort Edward to Whitehall it is an artificial channel. The distance of the Champlain Canal from Waterford to Whitehall is approximately 60 miles. From Whitehall, the Lake terminus of the Champlain Canal, an all waterway route extends to Montreal on the St. Lawrence. The total distance from New York to Montreal via the Champlain route and associated waters is approximately 453 miles.

Boats passing thru the improved canal channels are limited to a speed, not to exceed six miles an hour, excepting in canalized rivers and lakes where a limit of speed has been set at ten miles an hour. A surprisingly short time is required to pass thru the numerous locks and canal. The tug, *Southern Cross,* with five loaded barges carrying a total of over 2700 tons of wheat and flour cleared at Buffalo on June 3, 1931 and passed thru the Waterford flight of locks, located three miles north of Troy, four days later. The new self-propelled motorships added to the commercial fleet on the canal, ranging from 1500 to 2100 tons cargo capacity, and operating

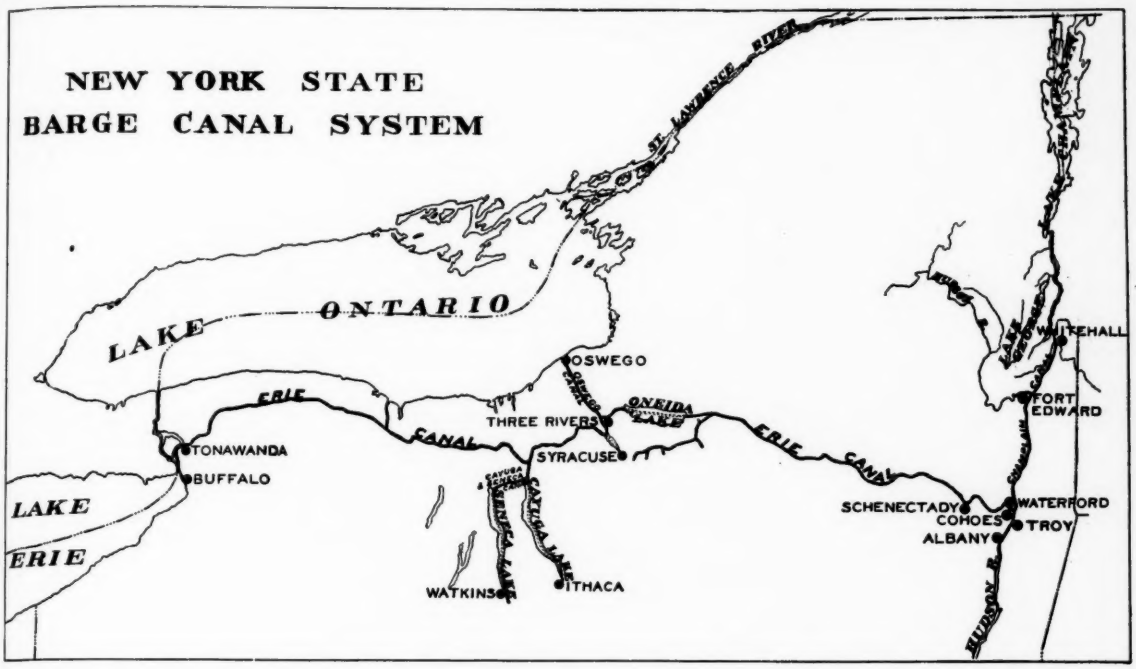

FIG. 1. The Canal System of New York.

on a draft of 10 feet make passages from Chicago to the Hudson in six days. In 1932, 750 cargo vessels were in active canal service, ranging in type from a 50 ton fish boat to a 3000 ton steel motorship. In addition to these cargo vessels there were 100 tugs in service.

The period of navigation is about eight months, from April to December. However, the canal is declared open as early and late as weather conditions will permit. Ice and high water are the most serious obstacles, but in general have little effect on the service of the canal. In 1932 the canal was opened for navigation on April 14 and closed on November 30. Navigation on the Hudson River from its mouth to the Port of Albany is in general open the year round. In the event of ice, breakers are used to make way for navigation.

The business on the canal is undoubtedly the most inviting subject. Statistics, clearly, show that the barge canal is far from a forgotten ditch. Since its improvement in 1918, when the State spent $175,000,000 in rebuilding, practically the entire canal with the installation of locks some 300 feet long and increasing the depth to 12 feet there has been a notable growth in tonnage. The annual ton-

nage has increased from 1,159,000 tons in 1918 to over 3,720,000 net tons in 1931 and 3,643,000 net tons in 1932, a gain of about 220 per cent. Indeed the tonnage is still far short of its cargo during its early days when some 6,000,000 tons were handled annually on "Clinton's Ditch."

The canal tonnage moving east about balances the weight of the cargo shipped west. Among the chief products moved to the Middle West from the seaboard via the barge canal are fertilizers, sulphur, implements, vehicles and parts, petroleum and other oils, sand, stone, and gravel, wood pulp, pulpwood, lumber, iron and steel articles, and a great variety of miscellaneous merchandise and bulk commodities. The eastward cargo includes such commodities as wheat, chemicals, petroleum, iron, pig and bloom, iron and steel products, salt, barley, flour, lumber, merchandise, and various other raw and manufactured commodities. On the basis of weight the more important commodities transported during 1932 and their percentages of the total canal tonnage are as follows:

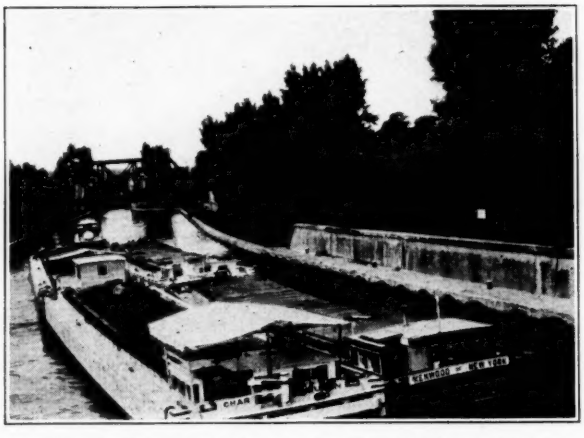

FIG. 2. Transportation on the New York State Barge Canal.

Commodity	*Percentage*
Grains (not including flaxseed or flour)	32.03
Petroleum and other oils	26.98
Sugar	11.03
Chemicals, drugs, etc	4.70
Sand, stone, gravel	3.73
Iron and steel articles	2.63
Sulphur	2.16
Fertilizer	2.00
Pulpwood	1.39
Salt	1.14
Lumber	1.11

The distribution of tonnage according to division of the barge canal in 1931 are as follows:

Erie 3,186,094; Champlain, 210,033; Oswego, 227,594 and Cayuga-Seneca, 19,712. For the past five years the tonnage on the divisions has been in these proportions—with one exception.

The tonnage carried on the Oswego division has increased from

33,659 in 1926 to 227,594 in 1932. Most of this gain in tonnage has occurred during the past two or three years, primarily due to the shipment of grain. The building of a large grain elevator at Oswego, the opening of the Welland Canal, and the improvement of the Port of Albany, are primarily responsible for the increase in business on the Oswego division.

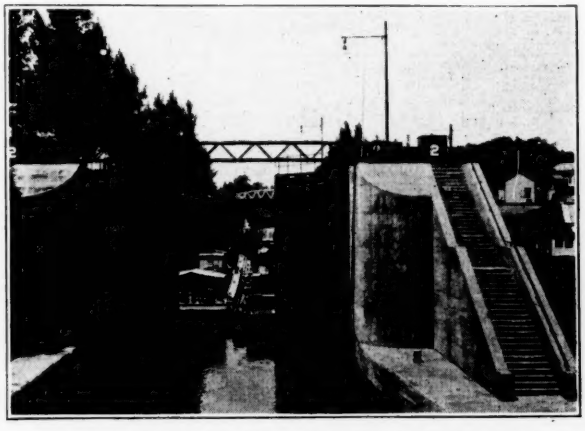

FIG. 3. Tug and barge in Lock No. 2 at Waterford.

Contrary to general opinion, the barge canal is a free waterway. In 1822, the New York State Canals were made toll free and have continued to operate on this basis. The cost of maintenance and operation is met by legislative appropriations made yearly from the State treasury. Both day and night service is maintained.

PORT OF ALBANY

In June 1932 the new Port of Albany was officially dedicated and rightly pronounced as one of America's greatest inland ports. In the first six months in 1931 following the completion of the deep channel of the Hudson more than 600 vessels traversed the route from Albany to New York, carrying cargoes of some 1,500,000 tons. Located only 143 miles from New York, a night's sailing distance and on an all-year route, the Port of Albany is assured of a bright future. During 1932 more than 1000 vessels came to the Port of Albany and a hundred and forty of these were ocean going ships.

The docks, warehouses, elevators, and other port equipment are located in the southern parts of the cities of Albany and Rensselaer. What was formerly Westerlo Island, Albany side of the Port site, has been reclaimed and raised 18 feet to provide a level, high, and well drained area of about 310 acres. With a dock wall of 18 feet, ships can discharge their cargoes directly from deck to dock, trucks or warehouses with a minimum of inconvenience. There is more than a mile of waterfront extending along the Albany side of the

port. Across the river, a distance of some 740 feet, is the Rensselaer shore where an improved waterfront extends for a half mile. This broad expanse of water affords ample room for vessels to turn under their own power. However, a turning basin has been constructed at the south end of the Rensselaer side which will permit ships to turn without delaying the navigation of other vessels. The Rensselaer side is used primarily as a lumber port while the Albany side cares for general cargoes. Here have been built vast transit sheds, the world's largest grain elevator with a storage capacity of 13,500,000 bushels, oil tanks, molasses tanks, warehouses and other projects are under consideration. The grain elevator has been in operation since August, 1932 and from it millions of bushels of grain have been shipped to various parts of the world. The largest of the molasses tanks will hold 4,000,000 gallons. One company alone has 50 oil tanks of 75,000 barrels each near the port. Land is available within the Port area for industrial use, a development that will come as business conditions improve.

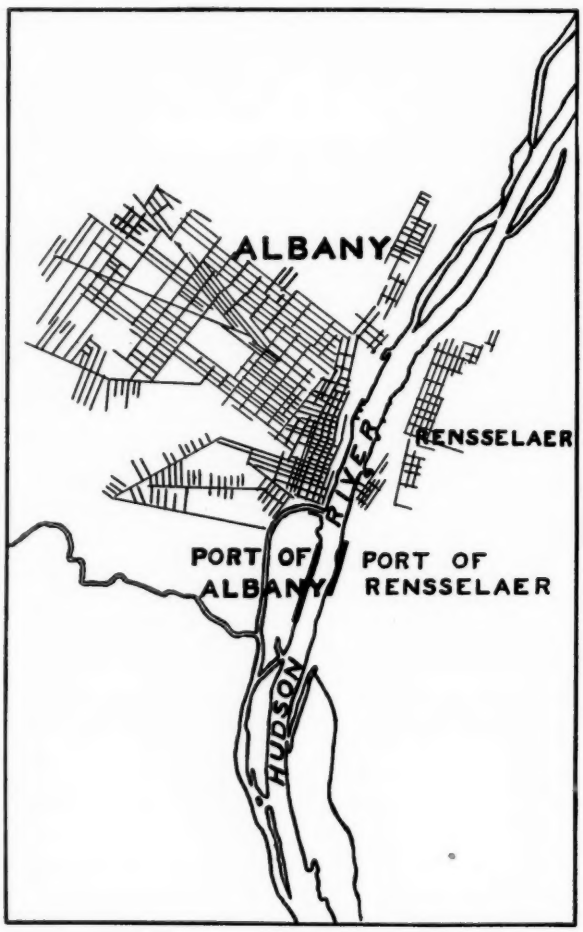

FIG. 4. The Port of Albany.

Often the statement appears that the Port of Albany is far inland as compared with the location of other important ports. Obviously this is not true in all cases. For example, New Orleans is 110

miles from the Gulf of Mexico; Portland, Oregon, is 112 miles from the Pacific, on Willamette River; Seattle is 124 miles from the sea; Manchester, England, lies 54 miles from Liverpool, and Bremen is 54 miles inland.

The scope of trade is world wide. Molasses is received from Java; pulpwood from Russia; wood pulp from Canada; grain from our western states; automobiles from the lake states, and numerous other products from domestic and foreign sources. The outgoing cargo is equally varied in character. Shipments are made to all parts of the world. Several steamship companies have ocean plying vessels making regular sailings from the Port of Albany. With access to the seas, to the Great Lakes, and served by a network of railroad lines, the Port of Albany should become one of the world's leading commercial centers.

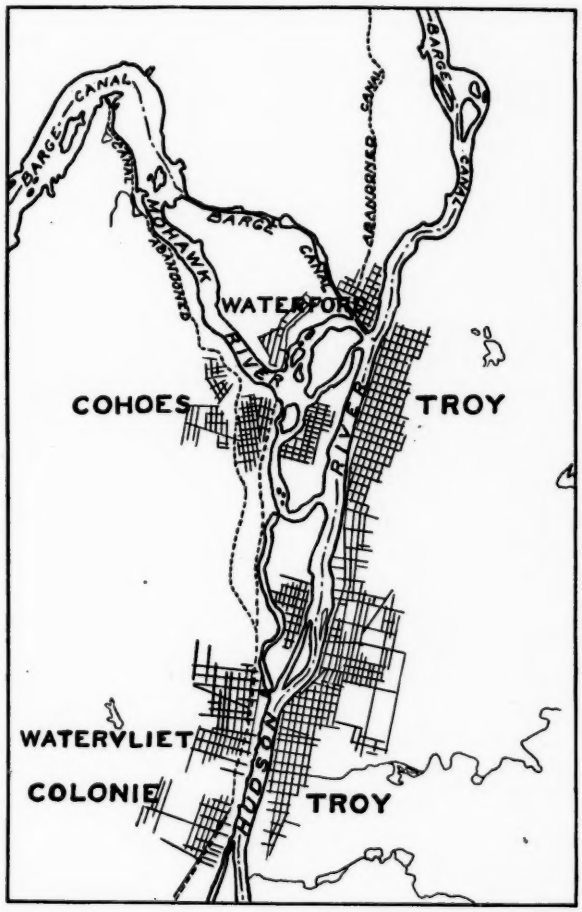

FIG. 5. The Port of Troy.

GREAT LAKES-ST. LAWRENCE WATERWAY

A treaty now awaits ratification by the United States and Canada for the construction of an international seaway not less than 27 feet deep from Duluth to Montreal via the Great Lakes and the St. Lawrence. A significant part of this project borders the State of New York, including waters of Lake Erie, Lake Ontario, and the St. Lawrence River. In detail, the route ex-

tends over Lake Superior, thru the St. Marys River and locks, Lake Huron, St. Clair River, Detroit River, Lake Erie, Welland Canal, Lake Ontario, and the St. Lawrence River. Numerous improvements in this route must be made if the ship channel is to provide a depth of 27 feet.

The deepening of the St. Marys, St. Clair and Detroit rivers to 27 feet and the provision of a 30 foot lock at the Soo, falls to the United States. The Welland Canal has already been improved to meet the requirements of the treaty by the Canadian government. The section of the route known as the Thousand Islands, a distance of 67 miles and the International Rapids, some 48 miles, are the tasks of the United States to provide a channel 27 feet deep. A part of the work has been completed. From Cornwall to Montreal the route is wholly Canadian waters, consisting of a distance of 78 miles. Only 24 miles of this section needs improvement and it is the task of the Canadians to finish it. The remaining part, Montreal to the sea, already has a ship channel 30 feet deep. According to reports, the total cost of the necessary improvement of the route will be approximately $543,000,000 of which approximately $272,000,000 will be expended by the United States.

Opinions differ as to the merits of the proposed project. The purpose of the Great Lakes-St. Lawrence improvement, according to many who favor the development are: "(1) To make the Great Lake ports, ocean ports; (2) to give the Great Lake ports a sea base for freight discharge; (3) to give these Great Lakes a real outlet to the sea and the markets of the world; (4) to put 40,000,000 land-locked people on freight-cost equality with the balance of the people of the United States; (5) to actually extend an arm of the ocean inland 2000 miles and give the north part of the United States ocean shipping; (6) to give the North Mississippi Valley farmer and manufacturer a chance to load his products on an ocean vessel, with ocean freight rates at their own railroad terminals; (7) to avoid the expensive unnecessary rail haul across the State of New York; (9) to develop water power, and (10) to give 40,000,000 people the shortest and most practical route to their export market." Some of the objections voiced by those opposed to the seaway are: "(1) That economically it is not sound because the St. Lawrence is not navigable for some five months each year due to ice; (2) that the cost of the project has been greatly underestimated; (3) that a depth of 33 feet rather than 27 feet would be required; (4) that ocean shipping would not use the route extensively; (5) that the

traffic available is much less than has commonly been assumed; (6) that the route would be of negligible value in affording relief, to American farmers; (7) that it is not needed for combatting railroad rates; (8) that it is better that we develop and improve our own transportation system, wholly within the territory of the United States, with American labor, and (9) that the water power for some years to come cannot be marketed at a price sufficient to cover the cost."

FIELD TRIP EXPERIENCES IN THE INTERMEDIATE GRADES

ELIZABETH D. ZACHARI
Louisville Normal School
Louisville, Kentucky

Teachers of geography have long hoped for the realization of a Utopia in which they, as guides, will take their girls and boys on actual trips to the different lands of the world. Here, together, they may view peoples of the world at work and play in their homelands, and attempt to fathom the reasons for their modes of living. Tho the visions always lay far beyond the realm of the possible, teachers, thru the use of tools and materials have led their children to travel vicariously. So vividly have been portrayed the activities of the various peoples in different lands, that members of the group feel they have experienced living with these people, have participated in their work and play, and, frequently, have shared in the solution of their problems. While we agree with Dr. Bobbitt that books are the windows thru which we look out on the happenings of the world, we struggle valiantly to furnish first-hand experiences whenever possible. In this way, children not only look out on the happenings of the world, but are actual participants in the midst of them.

Educators concede generally that the initial geographic interests of children are centered primarily in remote lands rather than in home environment. However, as girls and boys view the lives of people in unfamiliar regions, they come to question the activities seen about them and attempt to fathom the reasons for these happenings.

Thus the children are prepared to weigh and to consider the life activities in other lands from two points of view: (1) the vi-

sion acquired thru vicarious participation in world events, and (2) the outlook gained thru real experiences.

This article is concerned primarily with real travel experiences in geography, i.e., field experiences for children in the intermediate grades.

Specific Contributions of Field Experiences

One of the major aims of field experiences is to make the obvious meaningful. Altho its reiteration may seem unnecessary to specialists in the field of geography, it should be their concern to take stock, to note the mile-posts of progress, and to realize the length to which educators in general must go in the effort "to create an awareness" and "to give life to the familiar."

Secondly, field experiences aid in the development of media for map expression and in the growth of imagery, so essential to the intelligent interpretation of map symbols. The first activity is a creative one—the map is a picture or a record of what the child has experienced. In the case of the second activity, the map is a printed page and the field experience a tool which enables him to read the page more intelligently.

Then too, field trips may be used as a means of interpreting man's life in remote lands. Since enrichment resulting from local experiences is a factor of relatively high import in effecting world orientation with children, it is imperative that teachers furnish frequent contacts with striking geographic centers of interest.

Moreover, field experiences tend to prompt questions that lead to further study. Such questions often center around a core problem, the challenge of which leads to supplemental reading and additional trips. Intellectual curiosity, so stimulated, results frequently in a permanent interest in exploring the home environment. In this manner, thru a succession of enriching and intensifying experiences, a new world is continually revealed.

Finally, field experiences serve as a definite check on individual reading and class discussion.

Preliminary Requisites

Preëminent is the teacher's share in a program of geographic field experiences. From the outset, she must believe in the educational value of worth-while, first-hand contacts in the field. In line with this thought, an experimental psychologist said that it was impossible to hand an idea to children. They must have and share varied experiences before a concept crystallizes.

The teacher's sense of the value of field experiences may have been gained, for the most part, from the trips taken in relation to her professional training in geography. Or, this appreciation may have been derived from the realization of the personal gain from travel. Perhaps, both types of contacts have played their part in producing that intensified, ever-increasing desire for new field experiences. With perennial enthusiasm and an all-pervading determination to see the plan thru, obstacles will be surmounted, and the teacher will have created an unending joy in exploration.

Careful and intelligent planning is essential to successful field work. Such preparation involves: (1) the choice of field trips which will enable the children to experience the operation of geographic relationships or to perceive the manner in which they operate; (2) the development of a sensitivity as to the time in the progress of the unit at which the trips will be most profitably taken; (3) the consideration of the physical side of the trip—cost, method of transportation, and the size of the group taken; and (4) a definite plan of evaluation and checking.

Intelligent selection of field experiences is in direct proportion to the familiarity of the teacher with the cultural and natural items of the local environment and with her ability to interpret and to direct children in the translation of pertinent geographic relationships. Such information may be acquired only thru a reconnaissance followed by an intensive study of selected experiences to sound their possibilities for children. A background of this type is as essential to successful teaching as is a thoro knowledge of the reference library available for the children's work. This preparation should precede the tentative blocking out of the geography work for the term.

Moreover, the juncture at which a trip is to be taken is a factor of great importance. Should the experience serve as a means of introducing a unit of work? Or, should it come in the body of the unit —an integral part of the content and a tool used for enrichment and interpretation? Or, should it be the whole or a part of the summary in which the striking relationships of the unit are utilized in the interpretation of the trip? Thus, it may be said that a definite plan of procedure involves two factors: (1) a well thought out plan in the mind of the teacher, and (2) thru teacher guidance, a conscious working plan in the minds of the children.

We shall assume for purposes of discussion that there has been skillful guidance in the class. The group discussion has been chal-

lenging, experiences have been shared, pictures, maps, and, perhaps, grafs have been studied and interpreted to the extent that children have a rich background to bring to the trip. Frequently, it has been noted that children, prior to a field experience, desire to list the questions they would like to have answered. At other times, the teacher realizes that the children's understanding is so thoro and their interest so keen, that spontaneous questions will be many and timely. Whatever plan is followed, the teaching of relative values should stand first. As for example, in visiting the largest winter wheat flour mill of the world, located in the vicinity of the Louisville Normal School, the children should not have as their prime concern the multiplicity of processes. Rather, the reasons for the localization of the mill in Louisville, and the bases for the concentration of market activities in different regions are points for investigation. Pertinent geographic relationships should not be submerged by irrelevant details.

The elements of time, cost and transportation facilities present difficult problems. In most schools, unless rigid schedules still prevail, field experiences are now deemed of sufficient educational value to permit the use of school time. The ideal way to meet the expenses incident to the trip and the problem of transportation difficulties is to have a school bus. But, it is only in a few especially favored schools that this type of transportation is a reality. However, thru volunteer groups composed of mothers, or a permanent motor committee from a parent-teacher association, not only have trips been made at no cost to children but with a maximum economy of time and physical effort.

This experiment has proven to be most successful in schools where favorable economic conditions make such an arrangement possible with parents. Also, these same committees have made field experiences a reality to girls and boys in schools where less fortunate conditions prevail. One teacher with the help of some friends planned for her children to make a reconnaissance of the Blue Grass Region and of Lexington. Thru the courtesy of the members of the Junior League of Louisville, the principal of an elementary school working with her teachers, arranged a series of field trips for the children. Several groups of parent-teacher associations have special funds from which car and bus fare are obtained for children who cannot afford to pay the transportation fee. One progressive fourth grade teacher planned a series of trips and used her small car. She felt that the advantages of the group plan out-weighed

the values that might accrue from a class trip. In fact, the opportunity for English expression in reporting their findings to other class members was invaluable. Moreover, in many cases, children who had not had the opportunity of going with the group, often persuaded their parents to take them on holidays and week-ends. After a private venture of this kind, views were exchanged, and the trip was relived by all of those who were fortunate enough to have gone.

Finally, careful planning for the inventory is required. Perhaps, the reactions at the time of the field experience furnish sufficient proof to the teacher that the trip was a success or a failure. However true this is, the children should have a share in evaluating results. Why was the experience helpful? Why did we waste time? How can we help to prevent this from occurring again? These questions are frequently heard when members of the class are analyzing their excursions.

A type of check frequently used is the pre-trip assignment. The most effective way to deaden interest and spontaneity for a trip would be to give an assignment of the kind, "Be sure to get details, because, tomorrow, you have to write an account of your trip in a notebook." But when children are steeped in the delights of an experience, an eagerness to discuss their newly acquired knowledge is refreshingly strong. The following selections from two elementary school publications evidenced this spirit of pleasurable expression. While these accounts in no way meet all the requirements in the stating of geographic relationships, they do represent the children's efforts to express adjustments noted in the field. Moreover, no one piece of written work gives fair evidence of children's intelligible view of geographic operations. Only the teacher who works with them from day to day can fathom their growth in interpretative ability.

MARBLE CLIFF STONE QUARRIES[1]

Thursday, October 15, we went to the stone quarry to see what processes the limestone goes thru.

They get limestone by blasting. The first two inches to six feet is just plain earth. The next twenty-two feet is what they call ballast slate. This is mostly used for roads. Then thirty-six to forty feet is limestone. The reason they don't go deeper is that they might hit water.

The stone is put on cars with steam shovels. They have electric cars controlled in towers. These cars will carry fourteen tons. The other cars that were run by steam engines will haul sixteen to eighteen tons.

[1] Robert Byers. "Marble Cliff Stone Quarries," Buckeye Leaves, Ohio State University Elementary School. I, 1 (Fall Quarter, 1931), 8-9.

There are two tracks beside the crusher. The electric cars come on one and the steam on the other. They empty two of the latter to one of the former. The stone goes through the crusher to a belt that takes the smaller pieces to an elevator. This takes them to trucks or to kilns.

Then the truck takes it to be burned with the iron ore to help clean it. They call it slag after it is burned with the iron. The limestone that is taken to the kilns is in for three hours. Then it falls on a drag chain which takes it to little hods that carry it to the cooler. It is then crushed again into lime. Some lime is mixed with water. This is called Mason's lime.

A TRIP TO THE CEDRIC[2]

We left at 9:30 in cars and drove downtown to 23rd Street. We went on the dock where we saw boxes and barrels piled high. These had been unloaded from the boat. We saw chestnuts from Belgium, silk from China, hides from India, lambs' skins from Persia and many other things.

A man told us the ship carried enough to fill 220 freight cars.

Again, the summary or check may be in the form of an exhibit, a series of grafs, or several maps. One group of children, thru a series of lantern slides which they made in their class room, told other intermediate classes of the geographic relationships they had discovered in the neighborhood and how their class maps had evolved to help tell the story.

The formal type of check is useful, also. In this, as in less formal types of summarizing, the check is for understandings of geographic relationships and for abilities to use geographic tools. Suggestions as to form will be found in such references as Miss Parker's article, "Evaluating Tests in Geography."[3]

In conclusion, it may be said, that an effective set-up involves: (1) firm conviction in the value of field experiences as a tool and (2) thoughtful and intelligent planning for the realization of the results of rich experiences for girls and boys.

FIELD EXPERIENCES AND THEIR OUTCOMES

The field experiences described and analyzed in this section are the outgrowth of regular field work and experimental trips attempted with groups of children from time to time. For obvious reasons, the laboratory is that of the Metropolitan Area of Louisville. Tho different environments offer, for the most part, a wealth of widely varied experiences, seldom is a district so lacking in geographic personality that it has no contributions to enrich the knowledge of pupils in their ventures afield.

[2] Charles W. Finley and James S. Tippett. Field Work. Lincoln School of Teachers College, 1925, 26.

[3] Edith P. Parker. "Evaluating Tests in Geography," THE JOURNAL OF GEOGRAPHY. XXI (April 1922), 121-131.

This discussion of field experiences and their outcomes is organized around the major goals set up under the heading, "Specific Contributions of Field Experiences."

Making the Obvious Meaningful

The Knobs are a striking feature of the environs of Metropolitan Louisville. To the northwest, in southern Indiana, they rim the western edge of the New Albany section of the Metropolitan Area. Locally, they are known as Silver Hills. In the early days, the bottom lands fronting on the Ohio River and drained by Silver Creek were cleared to make way for the town of New Albany and to provide timber for the river craft built in the ship yards. Since Silver Hills in a large measure were spared the ravages of the ax, their beauty was found unimpaired when a large section was surveyed by the Northern Methodist Church, and subsequently purchased as a camp meeting site. At a later date, the reservoir of the New Albany Water Company was localized here. Rapidly, sites commanding river views were occupied by attractive homes. Adjoining the southern boundary of Louisville, two Knobs—Jacob's Hill and Kenwood Hill rise conspicuously from the old glacial flood plain of the Ohio. These are used for a city park and for a residential subdivision, respectively. Southward from Iroquois Park, groups of knobs extend from Jefferson County into Bullitt County. For approximately three decades, beginning in the fifties, a large part of the wood and most of the charcoal used in Louisville came from the wooded hillsides adjoining what is now Iroquois Park. The kitchens of the famous hostelry known as the Galt House were supplied from this source. Today, in this same region, are located a variety of improvements occupying, for the most part, pinnacle sites. They include summer camps, country homes, a reserve storage reservoir of the Louisville Water Company, the county sanitarium for tuberculous patients, and a city forest preserve.

Questions concerning the utilization of the Knobs came with this fifth grade class as an outgrowth of a picnic in Iroquois Park. Intense was their interest in the topographic map of Jefferson County.

As the study progressed, the children ascertained gradually the pattern of occupance, searched for the reasons of this utilization, and summarized their geographic discoveries.

Of quite a different nature was the experience of a fifth grade group which lived in Highland Park, an industrial district of Louisville. Their unit of work involved the study of the reasons for the

relatively rapid growth of Chicago. Its rank as a rail and manufacturing center was learned. The part played by railroads in this development was a concept to be gained from the study of the text and supplementary books. When the teacher asked, in this connection, if rail transportation contributed to the growth of Louisville, no response came from the class. In view of the fact that most of the fathers in this district worked in factories served by the Louisville and Nashville Railway this seemed cause for drastic action toward an understanding of the locality. Moreover, in the northern section of the district lay the South Louisville Yards and just beyond the southern limit of Highland Park, the Strawberry Yards—a switching and sorting center—of the same line.

Since the children were familiar with the layout of Highland Park, definitely planned field trips were unnecessary. In this case, there was a necessity for guidance in observation and the need for creating an awareness.

A week later, these statements were made in the class room. "These yards are more than tracks and trains now. We couldn't live and my father couldn't work without the help of the railroads." "We think these yards are big. I can't begin to imagine how big those in Chicago are. From the picture, the Chicago yards seem to be huge." The children had acquired ability to interpret. They had learned that in the everyday scenes most familiar to them were features worthy to be written in a story of the geography of Louisville.

Development of Map Expression and Interpretation

The unit for the fifth grade class was "Our City Today." In this connection, the teacher told the class of groups of children in New York City—one a third grade and the other a sixth grade class—who had studied their city largely thru field trips. In the discussion which followed one of the boys suggested that the group study Louisville by visiting the points of interest. The exploration of the city was begun by a visit to the roof garden of the school. The remarks were significant. "Look at the smoke. I can see tall smoke stacks. The factories must be in that section of the city." "I know the Ohio River is over there." The remote claimed their attention first.

Then, the class interest shifted to the neighborhood of the school. One child asked of the group, "Have you noticed the black smoke stacks of the factories along the railroad tracks?" "There are trees

where people's houses are." "I didn't know the warehouse of the OK Storage Company was so high."

To the teacher's question, "How could you tell the story of what you see?" the following suggestions were offered:

1. Tell what you see, and then explain the reasons why they are here in our neighborhood. I'd use a city map if I were doing it.
2. Take pictures of what you see in all directions.
3. Draw a map of your own. Make pictures on the map. Or use something to stand for what you see. Then use this map in telling your story to the children.

Following the last suggestion, individual maps were made of the school community and presented to the class for discussion and criticism. A group map, drawn on the floor, involved decisions concerning direction, scale and the choice of the best symbols. The block on which the school fronts was measured with a tape line by a committee of boys. This measurement was used by the children to determine the length of their paces. Relatively speaking, a fairly accurate layout of the community was secured. Comments in relation to the location of a filling station and storage warehouse directly west of the Louisville Normal School were illuminating and stimulating. Situated as they were at the convergence of two arterial highways, it was interesting to see the children's interpretations in the following.

1. The refining company showed sense in locating at that corner. Just think of how many cars pass that corner in one day.
2. But I can't see why the storage plant located there. Several men are needed to guide the driver in getting the huge vans out of the driveway. It always means that traffic is delayed.
3. The location is good for their sign on the roof. Broadway is wide. You can see the sign all the way from Fourth Street (the center of the Retail District).

The following field experience is offered as a valuable aid in developing the ability to interpret map symbols.

Preliminary to the detailed study of Louisville as the home of many people, a trip was arranged to give the children a bird's-eye view of Louisville. The class was taken to the roof of a down-town office building where its members could view the lay-out of the city as a whole.

Experience has shown that if a trip of this type is the first of its kind taken, or if the child has never been aloft in an airplane, a few minutes are usually required for orientation. At first, the children called attention to familiar details. Then many questions were asked and arguments were numerous. Following this, the sense of "awayness" or remoteness came to the front, and the children were

ready for the guidance of the teacher. A member of the group suggested that the map of Metropolitan Louisville be spread on the roof, placing the north on the map to the true north. The map was referred to constantly.

That map interpretation of the highest order was being participated in is evidenced by the following comments:

1. You cannot see anything but trees and a few high buildings there. Isn't that the Highlands where we live? (Map consulted.) It ought to be; that is east.
2. That (pointing west) is the way you go to Shawnee Park. A whole lot of people live near there. Most of the people must live where you see many trees.
3. Look at the smoke. I can see tall smoke stacks. The factories must be in that section of the city.
4. You can see the wharf at Jeffersonville.
5. Look at the canal. I didn't think it would look that much like the lines on the map.
6. Doesn't it seem queer to be looking down on Fourth Street (the center of retail activity in Louisville). How slowly the traffic seems to move. It's like a great canyon. I wonder if the Grand Canyon is deeper than that.
7. I feel as if I were above the earth and watching how people in our city live.
8. I think this is more interesting than going up in an airplane (the child who had had the experience); you have time to see more and wonder about it. (He did not succeed in convincing his classmates of this fact.)

Finally, one member of the class suggested that they explore different parts of our city. He added: "We think there are factories in the southwestern section of Louisville. Perhaps we are right. If we are, I'd like to know what is manufactured in these factories." To this remark a girl replied, "I would like to know three things: (1) what is made in these factories; (2) why are these products made in Louisville, and (3) why were the factories built where they are?" In this case, the enthusiastic response of the group led to a study of Louisville.

Mounting pictures on a city map was suggested by one boy. His explanation follows: "We can take the pictures with our kodak. Then we can place the pictures on the map where they belong. I believe that is the best way we can make our map look like the picture we see from this roof."

As it happened in this case, the trip was self-initiated and the report was given voluntarily, perhaps it should be said, spontaneously. Last spring the Ohio River rose to flood stage. Shipping was retarded, and the business operations of the Upper River Manufacturing District were paralyzed. Since the predicted crest of the flood had not arrived, sand bags were added to the earthen dam at the "Cut Off" to prevent the flooding of the homes of "The Point." Hundreds of people, including many children, visited the

river front frequently. A class in the fourth grade was studying Holland. The teacher, not realizing how far afield the children's experiences carried them, used a newspaper picture of the flood in introducing the geography lesson for the day. When the class was asked in what country the paper might have been printed, this reply came from a boy: "The picture might have been in a Dutch paper. I imagine the dams or levees along the delta of the Rhine look like that. But I know that picture was taken in Louisville. That is the picture of my father and me."

At the suggestions of a girl, the group decided to visit the river. A boy's comment after the trip was: "When I was on 'The Point' I thought I was in Holland. The wall of earth and of sand bags was higher than the people's yard. In a way, I think it was more like Venice. Didn't it seem queer for men to go from the office of the Ohio River Sand and Gravel Company in boats?"

Stimulation of Reading and Further Investigation

The desire for more knowledge of the subject came in the study one group of children made of Louisville's importance as a manufacturing center. They visited the Louisville and Portland Canal—the waterway around the Falls of the Ohio. Later, in connection with the study of the port of New Orleans, as an outgrowth of the local unit, it was decided to study the Panama Canal. Arrangements were made to go on a stern-wheeler from the Louisville Wharf to New Albany. Thus the children had the experience of "locking thru" the Louisville and Portland Canal, which negotiates the drop of twenty-two and one-half feet at the Falls of the Ohio. The part that field activities play in stimulating further reading and investigation, again, is illustrated by the study which a fifth grade class made to determine how man has used petroleum in industry. The pipe-line method of distribution caused much comment. The presence of four relatively large refineries in Louisville led to much discussion. Their location on the river front was noted also. The suggestion that Louisville refineries were fed by pipe lines from Eastern Kentucky and Mid-Continental fields led to investigation. Great was the surprise of the class when it discovered all crude oil was received by tank car or by river barge. The reasons for comparatively large river receipts and the method of unloading the oil in relation to the height of the plant yard above the average stage of the river made an interesting study.

Means of Checking on Reading and Class Discussion

In the study of Europe, the children had read that the Rhine was an arterial highway of trade. This statement called for extensive reading and stimulated much class discussion as to (1) the type of cargo carried; (2) the tonnage; (3) the direction of movement of freight; and (4) improvements for transportation facilities. In the course of the study, one of the boys compared the Rhine to the Ohio River. Other members of the group thought there were no bases for comparison. "I think there are. Let's prove it," was the challenging remark.

This pupil assignment led to an investigation of the following:

1. The report of the War Department relative to the traffic tonnage of the Louisville and Portland Canal.
2. The study of the canalization scheme of the Ohio which resulted in the permanent nine foot stage.
3. An analysis of the types of cargoes handled by the packet line which plies daily between Louisville and Cincinnati.
4. The type of freight arriving and clearing at the Louisville Wharf.
5. The types of boats used in river trade. For example, the advantages of the small stern-wheeler "tramp service" over the scheduled packet.
6. Unloading facilities on the Louisville water front.
7. The reasons for the maintenance of the United States Coast Guard Service at the Falls of the Ohio.

The conclusion, when finally reached, linked an intensive reading program with field experiences.

FARTHER AFIELD

The field trip is a tool of inestimable value to teachers of geography; a vehicle by which girls and boys are privileged to observe and often to participate first-hand in human experiences. While field activities carry with them no guarantee of success for certain units and for all groups of children, if wisely used they become a technique of work and a piece of valuable equipment for use in the great laboratory of the out-of-doors.

Thus privileged thru opportunity and guidance, teachers and children working together will venture investigation and project conclusions. Crude tho these findings may be, they will bespeak a sorting of facts and a new alignment in thinking. In such mental activity, while ideas will tend to converge toward local centers of geographic interest, new concepts will tend to radiate from those same centers. "Areas of ideas" thus charged with information and intense interest will serve, in part, in the realization of the goals of the teaching of geography.

TEACHING VALUES IN THE STUDY OF PLACE NAMES

LEWIS H. CHRISMAN
West Virginia Wesleyan College

PLACE NAMES OF GENERAL INTEREST

The study of the origin of geographical names is rich in classroom possibilities because it deals with a subject which touches upon so many aspects of life. Nobody can ignore it. As we drive thru the countryside place names flash before us, one after the other. We cannot write a letter without using them. A railroad schedule contains long lists of them. Even the briefest of biographies cannot be written without their help. It is true that the average man seldom thinks of their implications, but when his attention is called to the subject he is likely to find it of considerable interest. And some are so engrossed by it that it furnishes them a delightful and constructive hobby.

It stands to reason that a subject of such wide ramifications should not be entirely neglected by educators. It does not demand, or deserve, a place of its own in the curriculum. It can, however, be utilized to make other fields more interesting and vital. For example, since place names are words they will bob up now and then in the study of language. The philologist finds them worthy of intensive investigation and an effective teacher can use them to open windows into the history of the mother tongue and other languages. The geographical names of a region are closely allied with its history. Consequently, the teacher of that subject finds them of value in the stimulating of interest. This is especially true in any study of local history. But probably the natural field in the curriculum for the study of place names is that of geography. Here the student inevitably comes into contact with hundreds of such designations. And a little incidental notice of them will bring out their educative values. They will become a vital interest to some students. Others will give them, at least, a passing attention. Few will be so obtuse as to disregard them completely. They can be made the basis of a number of highly rewarding projects. Place names are an intrinsic part of the field of geography and the teacher of the subject can make them factors in the vitalizing of his teaching.

DESCRIPTIVE NAMES

Probably the most obvious place names are those which are based on surrounding physical conditions. A study of an atlas or

the United States Official Postal Guide is highly illuminating in this regard. Springfield (Ill.) and Springfield (Mass.) bear a name whose origin even the neophyte can determine. There are, however, twenty-two other post offices bearing the same designation. Springs in fields seem to be rather common. But Springfield is not the only place name coming from such a source. For example, there are eleven Springdale and ten Springvilles, six Spring Lakes, one Spring House (Pa.) and one Springwater (N.Y.). In the Postal Guide we have listed more than a hundred and fifty places which have their present names because they are located in the neighborhood of a spring. Some of the names in this group are not so obvious. Vaucluse (Va.) is named for the famous fountain in France near which Petrarch lived and composed his sonnets to Laura. The Virginia village is located near a large spring and bore for years the name of the sturdy Pennsylvania German who built his mansion in its vicinity in 1754.

The origin of names like Oaks, Oakland, Oakdale and Oakfield is apparent. The Pinehursts, Pine Groves and Pinevilles belong to the same class. Some names of this type, however, are more distinctive. Akron (Ohio) is the seat of Summit County and bears the Greek name for heights. Terre Haute (Ind.) utilizes the French for "high place" and Terra Alta (W.Va.) the Latin, the latter town once bearing the picturesque designation of Cranberry Summit. A village in West Virginia petitioned for a post office and sent in the name of "Hill Top." The name was written by a poor penman and the authorities in Washington read it "Hell Top." This impressed them as an undignified term and they freely translated it into Hebrew, making it read Tophet.

PLACES NAMED FOR INDIVIDUALS

The numerous Washingtons, Jeffersons, Madisons, Monroes and Lincolns do not need to be explained to any one who is even a cursory student of history. Occasionally the natural hypothesis in reference to a name of this kind is incorrect. For example, the Lincoln counties in Georgia, Kentucky, Missouri, North Carolina and Tennessee are named for Gen. Benjamin Lincoln, an officer of the Revolution and the county in Maine for Lincolnshire in England. Stark County in Ohio was given the name of Gen. John Stark, winner of the battle of Bennington. "Mad Anthony" Wayne was exceedingly popular with succeeding generations judging by the frequency with which his name has been utilized. Fourteen counties

have been named for him and probably two others, as well as numerous towns. Mercer County (W.Va.) was given the name of Gen. Hugh Mercer and its county seat the name of Princeton because General Mercer was killed in that battle. Harrison County (Ohio) was named for William Henry Harrison and Harrison County (W.Va.) for his father, Benjamin Harrison, a signer of the Declaration of Independence.

Many towns and counties are named for the first settler or somebody else prominent in their development. Cleveland (Ohio) was named for Gen. Moses Cleaveland of the Connecticut Land Company and Zanesville (Ohio) for Col. Ebenezer Zane of the famous border family. Ann Arbor (Mich.) was given the first part of its name in honor of the wives of two early settlers, Allen and Rumsey. Baldwin (Kan.) and Baldwin (La.) were named for John Baldwin of Berea, Ohio, who owned land at both places. Hastings (Neb.) was named in honor of Col. D. T. Hastings, who was instrumental in having the Saint Joseph and Grand Island Railroad built thru the region. The towns of Henry, Gassaway and Davis in West Virginia were all named for Henry Gassaway Davis, an important figure in the history of the development of the state. Elkins bears the name of his son-in-law, Senator Stephen B. Elkins.

A study of the place names given in honor of persons prevailing in a given region often sheds considerable light upon its political, social and economic background. Nine counties in the comparatively new state of Oklahoma bear the names of men prominent in public life. Beckham County was named for J. C. W. Beckham, Governor of Kentucky; Blaine for James G. Blaine; Bryan for William Jennings Bryan; Grady for Henry W. Grady; Logan for Gen. John A. Logan; Roger Mills and Stephens for Roger Q. Mills and John H. Stephens, two Texas congressmen; Harmon for Governor Judson C. Harmon of Ohio; Noble for John W. Noble, Secretary of the Interior during the Harrison administration and Tillman for Senator Benjamin Tillman of South Carolina. It is interesting to contrast these names with the following list of ten county names from the older state of Pennsylvania: Adams, Fayette, Franklin, Fulton, Greene, Harrison, Monroe, Perry, Washington and Wayne.

PLACES NAMED FOR OTHER PLACES

There are many place names which obviously are named for places in other countries and in numerous instances they journey from state to state on this. Lyme (Conn.) was named for Lyme in

Devonshire, England. New Lyme (Ohio) was settled by emigrants from the Connecticut town who took their place name with them. Coventryville (Pa.) was named for Coventry in England by Samuel Nutt, one of the most famous of colonial ironmasters. Warwick (Pa.) was also named by Mr. Nutt for his native county in England. Plymouth (Mass.) received its name from Plymouth, England. Probably all of the twenty-three Plymouths in other states come, either directly or indirectly from the old town where the pilgrims landed. Vermont was settled by emigrants from Connecticut and Massachusetts and it is interesting to notice the place names which the three states have in common, forty-nine Connecticut names being borne by Vermont towns. It is not always easy to trace the journey which a given name has made, but without a doubt many of the old English names in Vermont came from either Connecticut or Massachusetts. Among the names found in both Connecticut and Vermont are Coventry, Derby, Essex, Manchester, Middlesex, Norwich, Waterbury, Waterford, Waterville and Weston. Some of these names have an interesting history. Essex, for example, means East Saxony and Middlesex, Middle Saxony.

Harrisburg (Pa.) was named for John Harris, an Indian trader who established his post upon its site and Harrisburg (Neb.) was named after the Pennsylvania city. When the Santa Fe Railroad was built across the Chickasaw Nation in Oklahoma the project was financed by Philadelphia capital. There is a story to the effect that each member of the bonding house was allowed to name a station. The result was that the names of six towns of the "Main Line" region adjoining Philadelphia were transferred to Oklahoma, the names being Wayne, Paoli, Wynnewood, Berwyn, Ardmore and Overbrook.

The Linguistic Background

Different languages have made their contribution to American place names. In the Southwest numerous Spanish names tell of the days when that nation had a foothold in the Western world. Albuquerque (N.M.) is from the Spanish for "White Oak." Santa Fe (N.M.) means "holy faith." Santa Monica (Calif.) was named for the mother of St. Augustine. San Saba (Tex.) means "holy Saviour." Most French names are in the northern regions visited by French missionaries in the days when they were blazing paths thru trackless wilds. Prairie du Chien means "prairie of the dog," and Prairie du Roche "meadow of the rock." Detroit (Mich.) signifies "strait" or "narrow place." Marquette (Wis.) bears the

name of the consecrated missionary Father Jacques Marquette. Gallia County (Ohio) and its county seat, Gallipolis, both recall the infamous Scotio Company which, thru misrepresentation, sold a strip of land to a colony of Frenchmen. Basil (Ohio) was established by a colony of Swiss, as was also Helvetia (W.Va.). In Chester County (Pa.) Uwchlan, Caln, Nantmeal and Tredyffrin recall memories of the Welsh Quakers who settled the locality. Rhineland (Mo.) is one of many places suggestive of German settlers. Others in the same group are Strasburg (Pa.), Hagerstown (Md.), Bachmanville (Pa.), Hummelstown (Pa.) and twenty Berlins. The picturesque and romantic names brought to New York by the Dutch settlers are a distinct contribution to American nomenclature. Of these Wyckoff (N.J.), Blauvelt (N.Y.), Suffern (N.Y.), Peekskill (N.Y.) and Bronx (N.Y.) are typical.

Indian names are distinctive, poetical and appropriate. They are puzzling, however, on account of the discrepancies in the interpretations of their meaning. Because of the uncertainty in regard to Indian languages the student of place names should make a special effort to avoid dogmatism in this field. There are, however, a number of Indian names about which there is comparatively little confusion. Many lakes and rivers have rather poetical Indian names. Chautauqua, one of the many lakes in New York State, means "place where the fish are taken out." Cayuga is "the long lake" or "place where locusts are taken out." Otsega is "welcome water." The name Chillicothe which has been given to several cities and towns in the Middle West has two interpretations, "place where the people dwell" and "man made perfect." The generally accepted explanation of the word Chicago is that it means "skunk cabbage," coming from the root signifying bad smell.

CRUDE AND PICTURESQUE NAMES

It is surprising the number of odd place names which can be culled from the Postal Guide. An atlas is even more rewarding in this regard, since an effort has been made to eliminate such names as Undershirt Hill, Scratch Ankle and Dead Man's Gulch from the list of post offices. But a study of place names is not yet devoid of an appeal to the sense of humor. Kentucky has Greasy Creek, Tub, Biscuit, Cheap, Busy, and Dimple, and South Carolina Nags Head, Bearwallow, Pee Dee, Shoe, Tost, Topnot, and Worry. Missouri claims Rat, Gang, Damsite, Clever and Enough. In West Virginia there is Joker, Wewanta, Smoke Hole, Dingy, Hazy, Duck,

Odd and Pink. Almost every conceivable family name is applied to a place and the same can be said of given names and even nicknames. Dad, Bill, Nick, Tim, Floe, Ella, Eunice, Nell, Roy, Juan, Ned, Saidee, Ammie, Elvira, Seth and Patsey comprise but a small part of a list which could be made to cover many pages.

Names that describe some historic or romantic event make a general appeal. In California there is a post office named Lover's Leap. One can be sure of making a correct inference as to its legendary background without investigating the matter. Deborah's Rock (Pa.) received its name from that of the daughter to whom an early land-owner left that part of his farm, but the story that Deborah was an Indian maiden who jumped into the creek from that precipice because her lover had deserted her will not down. White Post (Va.) was thus designated because it contains a white post, the first of which was placed there by George Washington to mark the route to Lord Fairfax's Greenway Court. The name of Painted Post (N.Y.) comes from a painted monument which the Indians erected over the grave of their chief, Captain Montour. Washington's Crossing (Pa.) marks the site of Washington's crossing the Delaware the night of the victory at Trenton.

A Comparatively Untouched Field

In the United States relatively little has been done in this field. Comprehensive studies have been made of the geographical names of a few states and work is being done in others. In 1905 Henry Gannett under the imprint of the United States Geological Survey published Bulletin No. 258, Series F, Geography 45 with the title The Origin of Certain Place Names. Altho this document is now out of print and is by no means devoid of inaccuracies, it is invaluable to the student of the subject. A comparatively small number of articles has been written in regard to place names. Some of these, however, are rich in information and suggestion. The first step in the study of the topic is to find what material is accessible. Some excellent work has been done in local fields. Classes can work out projects which will be highly beneficial to them individually and will at the same time make a modest contribution to the extension of knowledge. The subject possesses a vitality which makes it of considerable value educationally.

THE SAGO GROWERS

ERNEST YOUNG
London, England

Note to teacher: Sago comes from lands with the equatorial type of climate, where the typical vegetation is the equatorial rain forest. We have visited such regions on the west coast of Africa (cocoa), in Jamaica (bananas) and in Malaya (rubber). In this lesson it occurs again in Borneo, one of the East Indies, which is the chief sago producing region in the world. There is not much literature about either sago or the people who grow it. This account of the cultivation of the plant is based on a report of the Government Mycologist for North Borneo, supplied to the author by the British North Borneo Company.

Children should be given a few grains of sago at which to look by way of introduction.

In these lessons we have learned that cocoa beans come from a pod and rubber from the sap of a tree. Now look at the sago in your hand. What is it—root, leaf, stem or seed? If you do not know and are simply guessing you are not likely to guess the right answer in a week. Let us go to the land that grows it—Borneo.

Borneo is an island, the third largest in the world, and the chief sago-growing country in the world. It has many high mountains and much dense forest, where live wild peoples and wild animals, and whence come many big rivers about which we shall have more to say later on. The land near the coast is low-lying and swampy, and it is here that most of the sago is grown and here that most of the people live.

The sago palm is a rather tall tree, twenty to twenty-five feet high and often four feet round, with a leaf something like that of a coconut palm. It is sometimes found on land that becomes dry in dry weather, but it is better on ground that is always wet. Much of the sago country in Borneo is so boggy that the trees, when almost fully grown, sink down into the mud by their own weight. Over these low-lying lands the sago palms form forests that stretch mile upon mile inland from the coast and the mouths of the rivers.

Growing the sago palm is not nearly such hard work as growing cocoa, or rubber. You just plant the palm and let it take care of itself. When it is about fifteen years old it is ready to give us sago if we know where to find it. At the top there are leaves and a bud, but there is nothing that looks like sago or can be picked like cocoa pods or bananas.

We begin by cutting down the whole tree as close to the bottom as possible, which seems a rather funny thing to do! We do not cut an apple tree down when we want to collect the fruit. Then the top

leaves and the bud of the sago palm are removed and the stem is sawn into pieces, each about five feet long. The logs are then fastened together in a single line and dragged to the nearest waterway where they are drawn by boat or buffalo to a place called the cleaning shed. It is quite common to see a chain of fifty sago logs winding along a stream behind a single buffalo. If the weather is dry and there is not enough water to float the logs, there may be a shortage of sago.

The cleaning shed is a kind of thatched hut without any walls. The logs are dragged on to the bank beside it or allowed to lie in the water till they are needed. So far, we have seen nothing that looks like sago as we know it. We have left all the leaves and buds behind and here we are with just a heap of logs. Further, the outside of the logs is a hard rind about two inches thick. If we strip this off we find inside, not sago, but a mass of pith. This pith is scratched into a sort of coarse saw-dust by means of a narrow plank thru which nails have been driven in close-set rows.

The saw-dust is piled up on a mat placed on a platform in the open air. Water is poured over it, after which the girls and women dance on it. As they dance on this wet mass very fine grains of starch pass thru the mat and are caught in a trough, where they settle at the bottom as a kind of thick paste: this paste is "raw" sago. The water is run off and what is left is allowed to dry and is called sago-flour. At this stage it is not pearly white as you see it in your hand or in a milk pudding, but a dirty grey color, and it has a very unpleasant smell.

To make pearl sago, the flour is slightly damped and rocked in a shallow cradle made of calico until it has formed a number of white grains. These grains are put into a sieve to remove things that are not wanted, and then fried for a short time in shallow iron pans in a mixture of tallow and wax.

Sago, as we said before, is neither root nor leaf, neither seed nor juice. It does not grow in little grains but is made out of starch which is contained in the woody pith of a palm. This palm is a very useful one to the people who grow it. Sago flour provides them with food, and the sago refuse can be given to the pigs and buffaloes. The leaves are used for thatch; the leaf stalks supply light posts, or, cut into suitable lengths and placed side by side, make walls of houses. Narrow strips are woven into mats; trunks are hollowed out for use as troughs; and flattened pieces of the rough rind give good planks.

Now we have to ask the question: Who does the work? There are many tribes in Borneo, not many of whom are sago growers. The sago growers (the Malanus, or Milanus or Milanos—there are several spellings), unlike the tribes of the interior, are a settled, orderly people. They are not black like the Negroes, brown like the Hindus, or yellow like the Chinese, but rather fair in color. The girls are often quite as white as an Italian. Their hair is black and straight. Their feet, because they spend so much of their time treading out sago from the pith, are big.

Because the swampy lands where the sago grows lie along the coasts and the rivers, the people live either on the banks of the rivers or near the coast within reach of the tide. From the rivers they obtain water for washing and cleaning and for pouring on the sago pith. These rivers, too, are practically the only roads.

Life for the sago-growers does not seem to us to be very hard. Because Borneo is a very warm country, no shelter is needed against cold, only against rain and sun, so the houses are of wood from the forest and thatched with leaves. They are raised on piles and in front is a veranda where the people can sit and talk. The floors are of plaited bamboo; the windows are holes in the walls provided with leaf shutters which can be drawn down to keep out sun or rain. Usually this kind of house has a living room, a sleeping room and a kitchen. Richer men have strong wooden houses made by carpenters, glass windows, bedsteads, tables and even phonographs.

Because it is so warm, clothing is scanty. The dress is like that worn by the Malays about whom we learned in the lesson on rubber; that is, a skirt of cotton cloth and a white jacket with long sleeves. When working in the fields, or traveling in boats, big hats, shaped something like mushrooms, are worn as a protection against the sun. These hats are beautifully made of rattan or grass, are dyed red and black, and woven into a striking pattern. Shoes are uncommon, and the skin on the soles of the feet grows so thick that the feet are not hurt by roots and stumps, and thorns stay in till it is convenient to pull them out.

Food is very cheap. Sago takes the place of wheat or rice, and a single tree will provide more real food than an acre of wheat or half an acre of potatoes. Moreover, on an average, one month's work will produce as much sago as a man needs for a whole year!

One could not, however, live on nothing else but sago. The forest supplies wild fruit that can be had for the picking, and the rivers

and sea supply fish that can be had for the catching. The people like to eat their fish raw, and they are also very fond of grubs, monkey meat, shark's flesh, snakes and other "creepy-crawlies." A favorite article of food is a worm that lives in white wood. To obtain these, a large raft is made of soft wood and soaked in the river for some weeks. It is then fished up full of the wriggling bodies of the worms. If there is a feast, chickens are killed, and beef, if not too expensive, will also find a place—not on the table but on the floor. For when eating a meal, the people sit on the floor on mats, with the food in the center, and each person helps himself.

Of course the sago-growers have their troubles, some of which are caused by animals. From the low and marshy coasts thick forests run back to and cover the mountains of the interior. In these forests are wild cattle, wild cats, snakes and wild pigs that sometimes eat up big slices of the sago plantation. There are also many kinds of monkeys, one of which has a long nose and bushy side whiskers and looks like a funny old man.

There are, however, no lions or tigers. There are bears, but if you met one of them he would feel more afraid of you than you would of him. In fact, these bears are often tamed and treated as pets.

Here is a story about a bear. A missionary once caught a little one and made a pet of him. He roamed about the house like a cat or a dog and did no one any harm. One day he was lost. For four days no one could find him. At the end of that time somebody heard a grumbling noise, that sounded like the bear's voice, in the store-room. The door was opened and there was the bear sitting on his hind legs in a tall jar with a narrow neck. The bear had gone into the store-room and found this jar full of sugar. He dipped his paws in, pulled them out, licked them and liked what he licked. He ate all the sugar he could get that way and then let himself down into the jar, hind feet first. When he had eaten all the sugar he tried to climb out, but was unable to do so, and there he had to sit, very unhappy, till he was found and set free.

In the river that runs in front of the house there are many crocodiles. As these are dangerous, the government pays a reward for their destruction at the rate of so much a foot of the crocodile's length. Many of the people are very clever at catching crocodiles alive with a sort of "hook." These they lash to a pole, to be measured and killed by the police before they claim the reward.

Perhaps the greatest enemies of the sago-growers are the bad

spirits that, so the people believe, make them ill. There are more than 80 spirits, that bring trouble, which live in the forest, the air or the river. If you are not feeling well you don't need medicine. All you have to do is to drive out the spirit that is causing the mischief. Suppose you have a cough. You must not buy a cough mixture. You send for a witch doctor. He comes to see you, and having found out what is the matter with you, decides that a spirit that lives in the river has entered your chest. He goes home and makes an image of the spirit with sago pith. This image is about 8 or 9 inches long, has four feet and a tail that curves up and is held up to the throat. He comes back with the image, sits down by you, beats a drum and calls on the spirit to come out of you and go into the image. He pours water over the image and lets it trickle on your chest, where the cough is. Then he floats the image in the river tied to the ladder that leads up to the veranda, and the cough leaves you—perhaps.

More important than the crocodiles, the fish that climb, or the frogs that fly, are the fish that are eaten for food. These are sometimes caught in traps made of basket work and then put alive into a kind of bamboo cage. The cage is fastened under a raft which floats down the river with the fisherman on the top and the cage of fish underneath. When someone wants to buy the fish the man in the center of the raft scoops them out with a landing net thru a door in the top of the cage.

The sago-growers are clever fishermen and go out two or three miles to sea in their boats. They are said to be able to paddle these boats faster than any other of the tribes in the island.

The children often go to schools that are under the care of the government or the missionaries, where they are taught by people of their own race, many of whom can speak a little English.

Everybody is fond of stories and believes in spirits and fairies. Some of them, from time to time, send down the river, little rafts laden with food and presents for the spirits that live in the sea in order that these spirits shall be kind to them when they go fishing.

One pretty story explains what the stars are. In olden days, a giant who was beating sago pith with a wooden mallet, happened to hit the sky and made it jump up high out of reach, and the stars are the root-holes in the world above, showing thru the sky. Another story, not so pretty, says that at the time when the giant struck the sky, the mosquitoes that bite and sting badly enough in our times, were as big as fowls.

THE NATIONAL COUNCIL MEETING

Presentation of geographic material, actually tried and found usable in the teaching of elementary, secondary and college grade levels, was the outstanding contribution of the papers read at the Annual Meeting of the National Council of Geography Teachers, held December 28-30, at Northwestern University. Emphasis was on present findings, not on weaknesses and shortcomings of the past. No one presumed to have found the all-time solution of the problems in the content or teaching of geography, but at least the material presented instilled confidence in the audience that progress in definite directions was being made.

The program was divided into five sections, each of which had a central theme which was discussed under four subdivisions. This development helped round out a well balanced thinking on the varied aspects of the central theme. A number of these papers, in some cases the entire group of papers presented at a section, will appear in subsequent numbers of the JOURNAL.

Among those participating in the program to whom the Council is particularly indebted were L. Dudley Stamp of the University of London, Ernest Horn of the University of Iowa, and H. C. Morrison of the University of Chicago.

Dr. Stamp's discussion, "Land Utilization Survey as a School and College Exercise," together with his generous response to the questions asked him so won his listeners that a similar mapping program will be forthcoming in at least a few of our urban and rural centers.

Dr. Horn's contention that it is futile to isolate method from content should go far to stimulating added interest in content courses as well as a closer integration between departments of geography and education. Dr. Horn pleads for more equipment in the geography classroom. He believes that geography presents a language problem which is not solved until a pupil's experience has been built up to include an understanding of such expressions as, great deal, thick ice, far out, long ago, often, large flock, many bushels. He believes in the rigor of scholarship, not in the escape therefrom evidenced in soap carving and the superficial entertainment provided in some story telling and field trips which require no deep thinking nor practical understanding.

Dr. Morrison held that there can be no participation in thinking or acting in an intelligent world without an absorbing interest in

geography and history. Yet the great mass of people have no concept of modern geography. The public must be made geography-minded just as the public thru the public schools and newspapers has developed a mind for mechanics and public health. He holds that it has been demonstrated that a fourth grade child can get geography, and that its study should be continued until the world around has been studied followed by two more courses, probably astronomical and industrial in their relationships. He made a direct attack on those courses which combine geography in the elementary field with economics and history.

At the Annual Dinner, the Distinguished Service Award was presented to Ray H. Whitbeck of the University of Wisconsin. Mr. L. O. Packard, Teachers College of the City of Boston, who presented the award, happily extended Mr. Whitbeck the Council's appreciation of his continuous support of the Council and of his eight years of service as Editor of the JOURNAL, as well as recognition of his contributions to the field of geography in his writings, his lectures, and in his profession as a teacher. This was followed by an informal introduction of the Council's new President, Edith P. Parker, of the University of Chicago, and of the new Secretary, Mr. William J. Berry, State Teachers College, Kalamazoo, Michigan.

Thru the courtesy of Northwestern University, the meetings were held in the Auditorium of Harris Hall. Following the afternoon sessions, in a lounge adjoining the Auditorium, a happy social hour was afforded at the two afternoon teas generously provided by the staff of the Department of Geology and Geography and the Chicago Geographical Society.

Altho most of those in attendance were members of the National Council there were present a liberal number of school executives as well as a number of members of other scientific societies meeting at that time in Evanston or Chicago.

CORA P. SLETTEN

SECRETARY'S REPORT, EVANSTON MEETING OF THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

First Session

The annual meeting of the Board of Directors and Executive Committee of the National Council of Geography Teachers was held at the School of Speech, Evanston, Illinois, December 29, 1933. The following business was transacted:

1. Meeting called to order by President George J. Miller.
2. The Nominating Committee consisting of A. E. Parkins (Chairman), Douglas C. Ridgley, Zoe Thralls, Allison Aitcheson, and Floyd Cunningham presented its report and the following were elected:

   President: Edith P. Parker, University of Chicago, Chicago, Illinois

   First Vice-President: Clyde E. Cooper, Ohio University, Athens Ohio

   Second Vice-President: Ella Huntting, State Normal School, Jersey City, New Jersey

   Secretary: William J. Berry, Western State Teachers College, Kalamazoo, Michigan

   Treasurer: H. Harrison Russell, State Teachers College, Bloomsburg, Pennsylvania

   Executive Committee (terms to expire in 1936): H. O. Lathrop, State Normal University, Normal Illinois; Isabelle Hart, State Teachers College, Oswego, New York; Erna Grassmuck, State Teachers College, Indiana, Pennsylvania

   Directors at Large (one year only): Elizabeth Zachari, Louisville Normal School, Louisville, Kentucky; Margaret Means; W. T. Chambers, State Teachers College, Nacogdoches, Texas; Erna Grassmuck, State Teachers College, Indiana, Pennsylvania; Claire Symonds, Senior High School, Quincy, Illinois; A. W. Abrams, State Department of Education, Albany, New York; O. W. Freeman, State Teachers College, Cheney, Washington

   Distinguished Service Award Committee (term to expire in 1938): L. O. Packard, Teachers College of the City of Boston, Boston, Massachusetts

   Research-Finance Committee (term to expire in 1939): R. M. Brown, Rhode Island College of Education, Providence, Rhode Island
3. The following letter to the Board of Directors from the editor of the JOURNAL OF GEOGRAPHY was read:

   "To Board of Directors, National Council of Geography Teachers

   "It is my pleasure to present to the National Council the first volume of the Geographic Education Series, entitled, 'Geography: How To Teach It.' This series was planned several years ago for the specific purpose of providing the Council with funds to foster research. Other volumes are in the making but it is not deemed advisable to mention them at this time, or to publish more than one volume a year. The material has been selected from the JOURNAL and produced by the off-set process of printing at a low cost.

   It is my desire that all income go to the Council, except actual cost to me in getting out each volume. This cost for the first volume will be very small and need not be refunded to me until profits from the sale provide the funds. The publishers will pay royalties to the Treasurer or other designated person.

   It is my wish that the income be devoted to a research fund and that such fund be administered by and appropriated by a Research Committee, similar to that of the American Association for the Advancement of Science. The Treasurer may properly be custodian of the funds and the same thereby covered by his bond.

   I hope that you will accept this little contribution and devote the proceeds to the purpose indicated.

   Very truly yours,

   (signed) GEO. J. MILLER, *President*"

The proposal of Mr. Miller was accepted and highly approved, the money accruing from the project to be disbursed by the treasurer of the National Council only on the order of the Research-Finance Committee.

Meeting adjourned to meet Friday evening, December 29, 1933.

EARL E. LACKEY, *Secretary*

Second Session

The second session of the Board of Directors was held in the Sun Room of the North Shore Hotel, December 27, 1933.

1. Meeting called to order by President Miller.
2. Minutes of meeting in Washington read and approved.
3. Postage bill incurred by President Miller read and approved.
4. Moved, seconded, and carried that the editor negotiate a combination offer for the JOURNAL and the new book "How To Teach It" with the publishers.
5. Moved, seconded, and carried, that Ollie Green, Murfreesboro, Tennessee, and Clarence Moses, Muskingum College, New Concord, Ohio, be invited by the secretary to become directors at large of the National Council.
6. Moved, seconded, and carried that R. B. Hall head a committee to investigate and promote the movement in the schools for Local Inventory and Regional Planning.
7. Moved that the Research-Finance Committee be designated to disburse royalties accruing from sale of the book "How To Teach It." Carried.
8. Report of George F. Howe on Press Bulletins approved and activities ordered to be continued, the president to appoint successor in case Mr. Howe could not serve.
9. The secretary was ordered to convey to Dr. Morrison and Dr. Horn the unqualified appreciation of the Board of Directors for their excellent contribution to the success of our annual meeting at Evanston.
10. The Resolutions Committee was requested to cooperate with R. B. Hall in urging Secretary Ickes to continue topographic mapping activities by use of money appropriated for the use of the Civil Works Administration.
11. Report of Committee on Political Geography read and approved. Committee continued and asked to report next year.
12. Motion to reduce annual honorarium to secretary from $50.00 to $25.00 approved.
13. Report of Committee on Educational Relations read and approved.
14. Report of Miss Thralls on new research in geography presented on the program of the Council. Recommended that such reports be continued.
15. Report of Editor of the JOURNAL presented and approved.
16. Report of Secretary for 1933 approved.
17. The following report of the Resolutions Committee was presented and approved:

    "The members of the National Council of Geography Teachers assembled in the annual meeting of 1933, wish to extend their sincere thanks to Northwestern University and in particular to Prof. W. H. Haas and other members of the Department of Geology and Geography for their many courtesies during the meetings. The admirable arrangements for the needs of sessions bespeak the thoughtful foresight of the local committee and place all in attendance under pleasant obligations to this committee. To the Geographic Society of Chicago the Council tenders its expression of appreciation for the delightful social events which the Society provided and which added much to the enjoyment of the occasion.

    Be it therefore Resolved that these resolutions be recorded in the minutes of the National Council and that copies thereof be transmitted to Northwestern University, to Professor Haas and his committee, and to the Geographic Society of Chicago. Committee: R. H. Whitbeck, R. N. Brown, Alice Foster, Marguerite Uttley."
18. The Distinguished Service Award Committee chose Ray Hughes Whitbeck on whom to confer the Distinguished Service Award. The award was made public by the chairman, Professor L. O. Packard, at the annual dinner at the North Shore Hotel.

19. The following persons were in attendance at the meeting of the Board of Directors:

Abrams, A. W.
Aitcheson, Allison
Anderson, Esther S.
Berry, William J.
Breeze, Fred J.
Brown, R. M.
Cunningham, Floyd
Cooper, C. E.
Foster, Alice
Goebel, Anne
Hall, R. B.
Lackey, Earl E.
Miller, George J.
Packard, L. O.
Parkins, A. E.
Parker, Edith P.
Ridgley, D. C.
Sletten, Cora P.
Uttley, Marguerite
Thralls, Zoe A.
Whitbeck, R. H.
Zachari, Elizabeth

EARL E. LACKEY, *Secretary*

EDITORIAL NOTES AND NEWS

According to a Science Service Radio Talk recently given by Scott Turner, Director, U. S. Bureau of Mines, about 38,000 short tons of gold have been produced thruout the world since the discovery of America. In contrast, over fifty times that weight of copper was produced in the single year, 1929. The Homestake Mine in South Dakota is the greatest gold mine in the United States, the second greatest is in Alaska. Canada's greatest producer is the Lake Shore mine, and the second great is the Hollinger. Ontario alone produced more gold last year than the whole of the United States. However, about half the gold mined annually in the world comes from the Union of South Africa. The greatest African mine is called Government Gold, and the Crown mine is second to it. Each one produces nearly three times as much as our largest mine.

DR. VERNOR C. FINCH, Chairman of the Department of Geography, University of Wisconsin, was recently honored by his Alma Mater, Kalamazoo College, which conferred on him the honorary degree of Doctor of Science. The occasion was the hundredth anniversary of the opening of the College. Dr. Finch officially represented the Association of American Universities at the celebration.

Recently the responsibility for supervising the preparation of teachers at the University of Chicago was transferred from the School of Education to an interdivisional "University Committee on the Preparation of Teachers," appointed by the President, and representing all divisions of the University. This change in policy, which had the approval of the Dean and Faculty of the School of Education, involved the discontinuance of that professional school and was designed (1) to permit the Department of Education to concentrate attention on instruction and research in its special field, (2) to emphasize the fact that the training of teachers, for all levels of education, is a function of the University as a whole, and (3) to afford as great an opportunity as possible to coordinate subject matter or content with teaching methods in various fields. In harmony with this policy, courses in the Teaching of Geography were transferred to the Department of Geography and Miss Edith P. Parker, the faculty member in charge of them, became a member of that department.

The recognition of Soviet Russia by the United States has led to the organization of the Anglo-American Institute of the First Moscow University. The movement is

sponsored in Russia by the People's Commissariat of Education and Voks (the Society for Cultural Relations with Foreign Countries) and in the United States by the Institute of International Education, Inc. The new venture plans to offer summer courses at the University of Moscow, taught in English by a faculty of Soviet professors, and designed to meet the needs of American and English students and educators.

A large number of teachers attended the meeting of the Pennsylvania Council of Geography Teachers which met December 29 in connection with the Pennsylvania State Education Association. A demonstration lesson using museum materials was conducted by Miss Agnes M. Wilkie, Division of Visual Education, Philadelphia Public Schools, followed by an address by J. Russell Smith of Columbia University. In the afternoon an address on the geography of Palestine was given by Miss Lucy W. Wilson, Principal of South Philadelphia High School for Girls.

The International Geographical Congress of 1934 will be held in Warsaw, Poland, August 23-31, under the presidency of Dr. Isaiah Bowman, Director of the American Geographical Society of New York. The program will have sections devoted to the following subjects: Cartography; Physical Geography; Human Geography; Prehistorical and Historical Geography, and the History of Geography; Landscapes; and Methods in Teaching of Geography. In addition there will be discussions of problems dealing with such subjects as aerial photography, topographic and cartographic work, erosion surfaces, climatic variations, plant and animal relations in mountains, and overpopulation. These problems have been investigated by special committees appointed by the Congress which met in Paris in 1931. Daily and half-daily excursions will be made during the Congress. In the week preceding as well as following the meetings, excursions will be conducted planned to acquaint the members of the Congress with the geographical landscapes of Poland.

Membership in the Congress is urged even tho one cannot be in attendance. Those registering will receive the publications of the Congress. Anyone interested may write for further information to W. L. G. Joerg of the American Geographical Society of New York.

The ninth annual Seminar in Mexico under the auspices of the Committee on Cultural Relations with Latin America will be held in Mexico City and Cuernavaca from July 10 to July 30, 1934. It will be followed by two conducted tours, each of a week's duration, to the states of Oaxaca and Michoacan. For further information write to the Committee's headquarters at 112 East Nineteenth Street, New York City.

Thru the courtesy of General Foods, sponsors for the broadcasting of the second Byrd Antarctic Expedition, a pictorial map with colorful embellishments of the south polar area is available, free to geography teachers who will write Frank Smith, General Foods Corporation, Postum Building, 250 Park Ave., New York. Besides the mapping of the known coast line, mountain peaks and ranges, the South Magnetic Pole, and the Ross Shelf Ice, there are inserts of the Bay of Whales and of the path of the broadcast via Buenos Aires.

The American School of the Air broadcasting daily at 2:30 P.M., Eastern Standard Time, over the Columbia Broadcasting system, has issued a 61 page bulletin containing their daily programs for 1933-34. The authors of the air scripts in geography are Dr. Ellsworth Huntington and John C. Maish. The musical background of these programs is typical of that part of the country in which the scene of the broadcast is laid. Fol-

lowing a visit to Holland in winter on January 9, the broadcasts at seven day intervals will take the listeners on an itinerary including Italy, Yugoslavia, Bulgaria, The Sudan, Uganda, Bombay, the Himalayas, Java, Hong Kong and Canton, Manchuria, Vladivostok, Tokyo, Hawaii, The Puget Sound Region, and home across Canada to the lower St. Lawrence.

The geographers attending the annual geography meetings held in New York City in 1928 who took the field excursion thru the Port of New York led by Lester E. Klim will recall the visit to the port of Newark. A worthless swamp filled in with dredgings from adjoining Newark Bay had just been made availabe for industrial sites. Part of it was reserved for an airport, which was opened for traffic in 1930. It has now become what is purported to be the world's greatest airport, handling in 1932 more air traffic than London, Paris, and Berlin combined. That year some eighty planes were scheduled daily in and out of the airport, in addition to the numerous private and military planes. Fast busses carry the passengers to and from the heart of New York, Newark, and Jersey City.

Included in the Public Works Program is aid for repairs in the ruins of Mesa Verde National Park, Colorado, and in the Aztec Ruins National Monument, New Mexico. More than half the allotment as wages in the former restoration will be paid to Indian laborers who will repair the rooms their forebears built and occupied probably as early as the eleventh century.

A preliminary report on the Weather Bureau was released on December 1, 1933, by a special committee appointed last summer under the Science Advisory Board which acts under the jurisdiction of the National Academy of Sciences and the National Research Council. The report gives a valuable summary of the services of the Weather Bureau and makes recommendation for furthering these services. One of these urges the adoption of a forecasting technique called the air-mass analysis methods to supplement, not replace, the older methods. These would involve the mapping of temperatures, humidities and pressures aloft as well as on the surface. The addition of some twenty aerological stations to the present pilot balloon network would make this possible. These methods have been effectively used in Europe, and are a special boon to air men. A number of other ways of extending and perfecting the services of the Bureau and its personnel are noted, as well as the addition to the Bureau's telegraph system of the services of any other rapid and efficient communication system, and the cooperation with Canada, Mexico, and Russia (Siberia) for securing meteorological data in the interest of increasing the time range of forecasts. Dr. Isaiah Bowman, Chairman of the National Research Council, and Director of the American Geographical Society is a member of the committee.

One of the findings of the U. S. Naval Research Laboratory conducted in Alaska during the recently concluded Polar Year is the deficiency in ultraviolet radiation in polar lands. Only during the midsummer noonday hours when the sun is high in the heavens is the amount adequate for healthy physiological functionings. Norwegian fishermen in Arctic waters apparently make up for the deficiency by drinking cod liver oil. The probability is that if in the future weather stations and aviation bases be set up in the North, this vitamin deficiency in their light will have to be compensated for by a vitamin-rich diet, by the use of ultra-violet lamps and by periodic visits of the men to sunny climes.

GEOGRAPHICAL PUBLICATIONS

L. Dudley Stamp and S. H. Beaver. **The British Isles. A Geographic and Economic Survey.** 731 pages. 297 illustrations. Longmans, Green and Company, London and New York, 1933. $8.00.

Dr. Stamp is an active worker in geography, the author of a number of British textbooks, as well as a teacher in the University of London, where Mr. Beaver is an assistant in geography.

This book is adapted primarily for use as a text for British university classes, but it contains so much material not conveniently available elsewhere that it will be serviceable as a work of reference to collegiate teachers of geography in America. It supplements in a valuable way Hugh Butler's: The United Kingdom, An Industrial, Commercial and Financial Handbook, Trade Promotion Series No. 94, U. S. Department of Commerce, 1930 (975 Pages, price $1.75). These two books, with a total of over 1700 pages, afford a wealth of material on most phases of the economic geography of Britain.

"The British Isles" contains 33 chapters, the first 9 of which deal with Position, Physiographic Evolution, Climate, Inland Waters, Soils, Land Utilization, Natural Vegetation and Forests. The chapters on physiography give the sort of geologic background desirable for an understanding of the detailed regional geography of Britain. The chapter on land utilization is, as might be expected from the present director of national land utilization survey of Britain (Dr. Stamp), conspicuously excellent.

Britain contains the smallest percentage of forest land of any European country, less than 5 per cent, in contrast with 8 per cent in Netherlands, the next lowest, and with 60 per cent in Finland, the highest. Less than one-fourth of Britain's forests are coniferous. Many Americans will be surprised to learn that the largest area of forests is at the extreme southeast, south of the Thames River and estuary.

Chapters X-XIII (120 pages) deal with agriculture, in both a general way and with details as to Scotland, England and Ireland.

The fisheries, coal and other minerals are discussed in the next three chapters, following which come three chapters devoted to the iron, steel and non-ferrous metal industries. The textile industries occupy 80 pages and the chemical and miscellaneous manufactures 20 more. The chapters on the steel and textile industries are by Mr. Beaver alone and are rather detailed and largely historical.

The Peopling of the British Isles (Chapter XXV) is a summary of many anthropological studies which will be enlightening to most geography teachers. It sketches the population changes from the Glacial Period to recent times. The earliest numerous settlers of Britain were of the Mediterranean racial stock, long skulled, dark haired brunets. They came from the southwest, from Spain and western France. The next great wave were broadheaded, stocky people, of the Alpine type (allied to the Slavic peoples of today). The third great wave, about 2000 B.C., were also chiefly "round heads," but with some long headed individuals. Nordics did not enter Britain in numbers until the Fifth Century A.D. when the Anglo-Saxons commenced coming. The next large wave of blonds were the Vikings and Scandinavians in the 8th to 10th centuries, who colonized much of coastal Scotland and parts of coastal Ireland and north England. All of these chief waves of immigrants and many lesser ones are represented in the British population of today.

The discussion of the present distribution of population emphasizes the great inequality in density in Britain, in contrast to relative uniformity in Ireland. An interesting generalization made is that despite the present importance of industry and commerce, the dense areas are nearly all the better agricultural areas, while the sparsely peopled areas are non-agricultural.

The discussion of the Development of the Settlements is also a valuable summary not readily available elsewhere. This subject is considered in five chapters; one on the evolution of the form and function of British villages and towns, one on London, a short one on the Industrial regions of Ireland, and long chapters on The Seaports of Great Britain, and of Ireland. An allied chapter considers the Growth of Communications.

The Foreign Trade of Britain receives only a short chapter.

The final chapter is by Professor Stamp's distinguished brother, Sir Josiah Stamp, and is on national wealth—its growth and distribution, a subject which might well be considered in all comprehensive regional geographic discussions.

One of the many excellent features of the book is the scholarly cooperation evident. Footnotes at the beginning of most chapters acknowledge assistance with respect to that chapter by recognized authorities on its subject matter.

STEPHEN S. VISHER

Indiana University

F. Spencer Chapman. **Northern Lights.** 304 pp. 63 photographs, 1 map. Oxford University Press, N.Y. 1933. $5.00.

This is the official account of the British Arctic Air-route Expedition to the East Coast of Greenland. Four members of the party in addition to the author contributed to the volume. The story is more interesting because only two members of the party of thirteen had had Arctic experience.

The book is a happy combination of scientific information and exceedingly interesting narrative. The difficulties and dangers of travel on the Ice Cap, flying where landing is uncertain and weather changeable, mapping from an open boat with ice a constant source of trouble, are considered in intimate detail. The variations in weather and climate in the various areas visited by members of the party should interest any reader. The life of the region, and the possibility of living off the country, as does the scanty Eskimo population, present another aspect of the Arctic. The life of the Eskimo in East Greenland is particularly interesting to the geographer, while the attempts of members of the party to use the kayak produces some laughable complications. The record of experiences and equipment should be of value to others in similar undertakings. The many excellent illustrations contribute in making the story realistic. Appendices supplement the volume.

Adventure in the cause of scientific exploration may be said to be the theme of the book, and its realism will so appeal to readers that many will want to complete it at one sitting.

L. H. HALVERSON

Northern State Teachers College,
Marquette, Michigan

The JOURNAL *of* GEOGRAPHY

CONTENTS FOR MARCH, 1934

Acadian South Louisiana. By Minnie Kelley 81

Miss Kelley is at present an assistant in the Geography Department at the Southwestern Louisiana Institute, Lafayette, Louisiana, which is located in the area which Miss Kelley describes. This is the thirty-first contribution to our HUMAN GEOGRAPHY SERIES.

A Dramatization to Vitalize Geography Teaching. By Lillian Oleson 91

Miss Oleson is a member of the staff in the State Teachers College at East Stroudsburg, Pennsylvania. She received her university training at the University of Chicago and Teachers College, Columbia, and is especially interested in making geography vivid to children. This is the twenty-sixth article in our HOW TO TEACH IT SERIES.

Port Churchill and the Hudson Bay Railway. By George Philbin 98

Mr. Philbin is an employee of the Hudson Bay Railway Company and situated at Port Churchill. The very interesting material presented here was abstracted from personal letters to a correspondent in Chicago.

Geographical Activities Involving the Use of Maps and Grafs. By Ruth Weaver Mikesell 105

Miss Mikesell is located in Oak Park, Illinois, and is a graduate of the State Teachers College, California, Pennsylvania, and received her Master's Degree in the University of Pittsburgh.

Regions of Midnight Sun and of Long Nights. By Lucia Harrison 114

Miss Harrison is in the Department of Geography, State Teachers College, Kalamazoo, Michigan.

Interest-Stimulating Devices 117

Editorial Notes and News 119

Contents of the JOURNAL are indexed regularly in the *Educational Index to Periodicals.*
Authors alone are responsible for opinions and statements in the JOURNAL.

Our World and Ourselves

IS OUTSTANDING among the geography series now offered to schools BECAUSE these four books inspiringly embody the new spirit and the new objectives of geography teaching • • relate the subject richly and closely to the life of the world • • correlate the subject with history wherever possible • • stress the interdependence of the nations of the world • • are written in a remarkably clear-cut and engaging style • • are equipped with large, distinctive pictures and remarkably clear, graphic maps.

Book One. Our Neighbors Near and Far *(Carpenter)*.....$0.96
Book Two. Our Home State and Continent *(Brigham and McFarlane)*.... 1.32
Book Three. Our Continental Neighbors *(Brigham and McFarlane)*..... 1.52
Book Four. How The World Lives and Works *(Brigham and McFarlane)* 1.52

AMERICAN BOOK COMPANY
New York Cincinnati Chicago Boston Atlanta San Francisco

Editorially speaking

it's a world leader

THE JOURNAL OF GEOLOGY

edited by
ROLLIN T. CHAMBERLIN
with the active collaboration of

ALBERT JOHANNSEN, *Petrology*
J HARLEN BRETZ, *Stratigraphic Geology*
EDSON S. BASTIN, *Economic Geology*
ALFRED S. ROMER, *Vertebrate Paleontology*
CAREY CRONEIS, *Invertebrate Paleontology*

ASSOCIATE EDITORS

CHARLES BARROIS, *France*
ALBERT PENCK, *Germany*
W. C. BRÖGGER, *Norway*
GERARD DEGEER, *Sweden*
SIR T. W. EDGEWORTH DAVID, *Australia*
H. ALBERT BROUWER, *The Netherlands*
BAILEY WILLIS, *Stanford University*
ARTHUR L. DAY, *Carnegie Institute*
ARTHUR P. COLEMAN, *Univ. of Toronto*
DAVID WHITE, *U. S. Geological Survey*
WILLIAM H. HOBBS, *Univ. of Michigan*
FRANK D. ADAMS, *McGill University*
CHARLES K. LEITH, *Univ. of Wisconsin*
WALLACE W. ATWOOD, *Clark University*
WILLIAM H. EMMONS, *University of Minnesota*

$6.00 A YEAR

Foreign postage, 65 cents *Canadian postage, 25 cents*

The University of Chicago Press